

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>01186PWO</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/006252</b>	International filing date (day/month/year) <b>09.06.2004</b>	Priority date (day/month/year) <b>29.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C23C2/02, C23C2/26, C21D1/02, C21D1/673, B21 D22/04, B21J5/00, F16S1/06</b>		
Applicant <b>VOESTALPINE STAHL GMBH</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 10 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input checked="" type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-19, 21-23, 25 as originally filed/furnished
- pages\* 20, 24 received by this Authority on 13.04.2005 with letter of 13.04.2005
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-29 as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1 as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. II      Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☐ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☒ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

## 1. Statement

Novelty (N)

Claims 2, 4, 5, 8-14, 23, 25-28 YESClaims 1, 3, 6, 7, 15-22, 24, 29 NO

Inventive step (IS)

Claims \_\_\_\_\_ YES

Claims 2, 4, 5, 8-14, 23, 25-28 NO

Industrial applicability (IA)

Claims 1-29 YES

Claims \_\_\_\_\_ NO

## 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: US 6564604 (JARTOUX XAVIER ET AL)

D2: WO 03/035922 & EP 1439240 (NISHIBATA  
TOSHINOBU; IMAI KAZUHIITO)D3: ASM HANDBOOK: SURFACE ENGINEERING (COTELL C;  
SPRAGE, J)

D4: JP 6256925 (NIPPON STEEL CORP)

**1 INVALID PRIORITY DATE**

This report was drafted without taking into consideration the claimed priority, since the priority claim has proved to be invalid (PCT Rules 43bis1 and 64.1). The reasons are as follows: method steps b) and d) were not originally disclosed and the corrosion protection layer (step a) is much broader than the original Zn-Al alloy. The international filing date (09.06.2004) is therefore the decisive date in respect of this report.

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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<b>2</b>	<b>NOVELTY (PCT ARTICLE 33(1) AND (2))</b>
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The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 3, 6, 7, 15-22, 24 and 29 lacks novelty (PCT Article 33(2)).

2.1 INDEPENDENT CLAIMS 1 AND 21

The subject matter of independent claim 1 is disclosed by document D1. Coated sheet steel is cut, hot shaped and rapidly cooled in order to produce a hardened shaped part (column 1, line 42 - column 2, line 32). An end trimming of the shaped part is made.

It is moreover known to a person skilled in the art to optionally make the required stampings or holes during the shaping when necessary.

The subject matter of independent claim 21 ("product-by-process") lacks novelty because the method for producing the steel component is disclosed in the prior art (see D1) and claim 21 does not mention any distinguishing product features.

The subject matter of independent claims 1 and 21 lacks novelty (PCT Article 33(1) and (2)).

2.2 Dependent claims 3, 6, 7, 15-22, 24 and 29 do not contain any features which, in combination with

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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the features of any claim to which they refer, meet the PCT requirements for novelty. The additional features of these claims are also known from D1 and/or are implicitly included in the method according to D1.

### **3 INVENTIVE STEP (PCT Article 33(3))**

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 2, 4, 5, 8-14, 23 and 25-28 does not involve an inventive step (PCT Article 33(3)).

- 3.1 Document D1 is considered the prior art closest to the subject matter of claim 1 and discloses a method for producing a structural component that is made from hardenable steel and is coated with a metal alloy (e.g. zinc or zinc alloy). The method involves at least the following steps: coating the sheet steel, cold shaping, heating and hot shaping the sheet steel until the structural component attains its final shape.

The subject matter of claim 2 thus differs from that known from D1 in that the total quantity of oxygen-affine elements is 0.1 to 15 wt.%. D2 and D4 describe a similar zinc alloy for coated sheet steel. Said zinc alloy, however, was already used for the same purpose in D2 and D4. The various quantities of oxygen-affine elements according to claims 4 and 5 are also disclosed by documents D2

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and D3.

In addition, the quantity of oxygen-affine elements is an implicitly known feature to a person skilled in the art. A person skilled in the art knows that zinc alloys for galvanising or electrolytic coating normally contain between 0.1 and 0.3 wt.% Al. Moreover, other zinc alloys, for example Galfan and Galvalume, have long been used in the industry (see documents D2 and D3). Other zinc alloys that contain elements such as Mg, Mn, B, Ca, etc. are known in the art. A person skilled in the art also generally knows that when subjected to heat treatment or upon contact with oxygen (e.g. oxidation process), the oxygenous elements form an oxide layer on the surface. When Al is used as oxygenous element, an  $\text{Al}_2\text{O}_3$ -containing oxide layer is formed.

A person skilled in the art would therefore regard the inclusion of this feature in the method described in D1 as a common measure.

Consequently, the subject matter of claims 2, 4 and 5 fails to involve an inventive step and therefore does not satisfy the criterion in PCT Article 33(1) and (3).

- 3.2 The phases with different ratios of zinc to iron are spontaneously formed in the coating during heat treatment of the sheet steel and therefore do not involve an inventive step (document D3). A person skilled in the art also knows that during

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heat treatment Fe is diffused into the zinc or zinc alloy layer. At least two different phases are formed by heating. The phases formed contain different quantities of the elements Zn and Fe (see D3). The subject matter of dependent claims 8-14, 23 and 25-28 therefore cannot be considered to involve an inventive step.

In addition, claims 11 and 28 do not meet the requirements of PCT Article 6 because the subject matter for which protection is sought is not clearly defined. The claims attempt to define the subject matter by the result to be achieved; thus only the problem to be solved is defined, without the technical features needed to achieve that result being disclosed.

**4 INDUSTRIAL APPLICABILITY (PCT Article 33(4))**

- 4.1 The subject matter of claims 1-29 is industrially applicable (PCT Article 33(4)).



## Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**1. CLARITY (PCT ARTICLE 6)**

The application does not meet the requirements of PCT Article 6 because independent claims 1 and 18 are unclear.

1.1 The vague and imprecise statement in claim 1 (e.g. "...a *necessary end trimming*" of the shaped part, "*optionally stampings...*") creates the impression that the subject matter for which protection is sought does not correspond to that defined in the claims and therefore results in a lack of clarity (PCT Article 6) if the description is used to interpret the claims. Moreover, irrespective of the above-mentioned lack of clarity, the subject matter of claim 1 lacks novelty (PCT Article 33(2)) and therefore the requirements of PCT Article 33(1) are not satisfied.

1.2 Claim 18 does not meet the requirements of PCT Article 6 because the subject matter for which protection is sought is not clearly defined. The claim attempts to define the subject matter by the result to be achieved; thus only the problem to be solved is defined, without the technical features needed to achieve that result being disclosed.

Box No. VIII Certain observations on the international application

**2. CONCLUDING OBSERVATION**

2.1 In view of the preceding observations (Box V 2.1 and Box VIII 1.1), the feature combination consisting of the subject matter of independent claim 1 and of dependent claim 15 is neither disclosed nor suggested by the available prior art.